DOCUMENT RESUME

ED 290 393 HE 021 084

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TITLE Level of Female Participation: An Overlooked Factor in Salary Differences among Faculty Disciplines?
PUB DATE 30 Oct 87
NOTE 28p.; Paper presented at the Annual Conference of the Southern Association for Institutional Research and the Society for College and University Planning (New Orleans, LA, October 28-30, 1987).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *College Faculty; Females; Higher Education; Institutional Research; *Intellectual Disciplines; *Salary Wage Differentials; Sex Differences; *Sex Discrimination; Surveys; *Teacher Salaries; *Women Faculty

ABSTRACT

Discipline is generally recognized as among the more important determinants of faculty salary. Discipline differences in faculty salary are normally accepted at face value, assumed to be the result of market forces. (The same assumption is commonly made about wage differences among occupations.) This paper reports on findings from an analysis of aggregate data on average salary and level of female participation in faculty disciplines. The discipline salary averages were taken from the annual "Faculty Salary Survey by Discipline," a national survey conducted by Oklahoma State University. Five years of salary data were used. Female participation rates were derived from doctoral degree recipient data reported by the National Center for Education Statistics. Findings suggest that there may be a link between the levels of average faculty salary and female participation in disciplines. The consistency of findings (for individual disciplines, for broad divisions of disciplines, in selected years, and across time) suggests the need for a critical appraisal of the market rationale for discipline differences in faculty salary. (Author/KM)

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Level of Female Participation: An Overlooked Factor in Salary Differences among Faculty Disciplines?

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Abstract

Discipline is generally recognized as among the more important determinants of faculty salary. Discipline differences in faculty salary are normally accepted at face value, assumed to be the result of market forces. (The same assumption is commonly made about wage differences among occupations.) This paper reports on findings from an analysis, using aggregate data on average salary and level of female participation in faculty disciplines, which suggests that there may be a link between the levels of average faculty salary and female participation in disciplines. The consistency of findings--for individual disciplines, for broad divisions of disciplines, in selected years, and across time--suggests the need for a critical appraisal of the market rationale for discipline differences in faculty salary.

Presented at the Annual Conference of the Southern Association for Institutional Research, New Orleans, LA, October 28-30, 1987

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Introduction

Interest in the study of faculty salaries, in particular, the bases for their differentiation, had been growing for some time, when extension of the Equal Pay Act to academic employment and other sex discrimination legislation in the early 1970s intensified the interest. Studies aimed at assessing the significance of sex differences in faculty salaries proliferated rapidly and now comprise a sizeable research literature.

Perhaps because so many studies have focused on a single discipline or single institution, gender has been considered mostly as a personal characteristic of faculty members. Little attention has been given to gender in the aggregate. Yet, the recent controversy over comparable worth raises the question of possible significance to gender as a characteristic of disciplines, i.e., the sex composition of the discipline.

Indeed, the question of relationship between sex composition and salary level of faculty disciplines, while of obvious interest as an equity concern in higher education, is especially interesting as an opportunity to shed light on the factual proposition underlying comparable worth. One problem in evaluating the comparable worth claim --that female-dominated occupations would pay more were it not for the gender of the incumbents--is that the necessary salary comparisons are between the same occupations, first as sex-segregated occupations and then as sex-neutral

occupations (Willborn, 1986). Such comparisons are hypothetical, for the most part, because of the high degree of occupational segregation that persists in the general workforce.

As an alternative, comparable worth advocates make comparisons between occupations dominated by opposite sexes; however, the weakness in this approach is their easy rejection. Indeed, after the counterclaim of market forces, the next most frequent argument against comparable worth is to deny that occupations can be compared. A similar denial is made with respect to the few historical cases of occupations that changed from male to female sex identification (e.g., secretary and bank teller), but with accompanying changes in the nature or content of the job and other worker characteristics, as well as wage level.

A better alternative is found in the disciplines that organize the academic workforce. Average faculty salary data are routinely compared across disciplines, although the differences revealed are conventionally understood to reflect market forces. Faculty disciplines share common attributes regardless of whether faculty roles are performed by men or women, and they retain these attributes regardless of any change in gender composition.

Further, increases in women's participation in higher education during the last decade and a half have resulted in widely varying levels of female participation both within and among disciplines. Thus, it is possible not only to

compare salaries of disciplines with varying female participation but also to observe whether salary levels of disciplines change over time in relation to changes in female partic pation.

Research Literature

The tendency of disciplines with high proportions of women to have low salaries has been frequently noted (Feldman, 1974; Fulton, 1975; Harris, 1970; Pezzullo & Brittingham, 1979). The pattern has led some authors to speculate that the differentiation in discipline salaries, conventionally understood to reflect market forces, may also reflect a relationship with female participation (Braskamp, Muffo, & Langston, 1978; Pezzullo & Brittingham, 1979). After crediting such possibility, however, the assumption of market forces is typically favored. Little effort has been made to pursue the question of relationship between salary level and female participation.

In one study, Tanur and Coser (1978) observed that "women in fields with a relatively high proportion of women are more likely to have lower-than-predicted salaries than do women in fields where there is a lower proportion of women" (p. 28). They labeled fields with a high proportion of women as one of the "pockets of poverty" which may be obscured when women are analyzed as a single group. However, the authors resisted any firm conclusion because of the small number of cases involved, especially of women in low representation fields.

In a similar analysis, Darland et al. (1973) reported the opposite finding. They found that it was in disciplines where women were scarce that the tendency was greater for women to receive lower-than-expected salaries.

Johnson and Stafford (1974) compared the relative salary disadvantage experienced by women in twelve biology fields. They found no relationship between the degree of salary disadvantage experienced by women and the proportion of women in the discipline. However, this finding is not necessarily inconsistent with the speculation that high proportions of women may depress discipline salary levels in general, affecting the salaries of both men and women.

Fulton (1975) has suggested that proportion of women may actually be a better predictor of men's salaries than women's. She computed rank correlations between proportion of women faculty and average rates of pay for men, women, and both sexes combined for 58 discipline groups in her data. The correlations were: men's average salary, -.40 ($p<.001$); women's average salary, -.17 ($p<.01$); average salary, both sexes combined, -.57 ($p<.001$). From which, Fulton concluded that "men derive some of their status from the "unfemininity" of their field, but women's status as women overrides the status of their field and depresses their salary." (p. 209, fn.)

Fulton's findings were based on data collected in 1968-69 when the differentiation in discipline salaries was less pronounced than presently and increases in women's

participation were just beginning to register in many fields. Does the moderately strong correlation (-.57) between average salary and proportion of women in disciplines, found by Fulton, still persist? Have the changes in the discipline salary structure corresponded with changes in female participation?

Data Sources

The discipline salary averages used in this study were taken from the annual Faculty Salary Survey by Discipline, conducted by Oklahoma State University. The OSU survey is a well-established, large, national survey, comprised of institutions belonging to the National Association of State Universities and Land-Grant Colleges. Data from the survey should provide reasonably good information on salaries paid in academic disciplines at leading institutions.

In all, five years of salary data (assistant professor rank) were selected for use in the study. Four years were selected for analysis of individual year data: 1974-75 (the first year of the survey), 1978-79, 1982-83, and 1985-86 (the latest year at the time of the analysis). A fifth year, 1977-78, was selected in order to form two time-periods of equal length for cross-time analysis: 1974-75 through 1982-83 and 1977-78 through 1985-86.

Female participation rates were derived from doctoral degree recipient data reported by the National Center for Education Statistics. Percentages were calculated based on

doctorate production during the three years immediately prior to each salary year. Combining three years of degree production served to increase the numbers for computing percentages in low doctorate production fields and to smooth fluctuations in annual percentages. Reliance on the sex distribution of doctorate recipients as a measure of female participation in disciplines, rather than faculty distributions, was dictated by data availability.

Data Analysis

All miscellaneous discipline categories were excluded from the analysis, as well as medical and allied health disciplines, theology, interdisciplinary studies, and occupational technology fields. Disciplines were also excluded if the salary average represented fewer than 25 salary cases or did not include salaries from at least 10 institutions. (Exclusion criteria for small Ns were kept modest to preserve for analysis as many disciplines as reasonably possible.)

Initial expectations were to examine the data from all possible perspectives: broad discipline (HEGIS group), individual discipline, and individual discipline within broad discipline. After exclusions, however, the within-broad-discipline data proved too sparse for meaningful analysis.

Correlation procedures were used to investigate the extent of relationship in the data.

Based on the strength of the correlation analysis, salary trends of individual disciplines were examined by gender category: masculine (under 30% female), integrated (over 30% female), feminine (over 70% female), turned (recently integrated), and feminized (recently feminine). The base- and end-year salary data for the two overlapping time-periods were combined into a single time series for this purpose.

Findings

Table 1 presents the correlation coefficients (Spearman rank and Pearson *r*) for the individual year data. Generally,

Table 1

Salary Level with Women's Participation

Year	Broad Disciplines		Individual Disciplines	
	Spearman	Pearson *r*	Spearman	Pearson *r*
1974-75	-.59	-.47	-.42	-.38
1978-79	-.67	-.52	-.57	-.44
1982-83	-.61	-.61	-.68	-.55
1985-86	-.73	-.66	-.67	-.54

Broad disciplines: N=19, 1974-75; 20, other years
Individual disciplines: N=59, 1974-75; 82, 1978-79; 83, 1982-83; 81, 1985-86

the coefficients evidence a moderately strong inverse relationship throughout the data. It was expected that the individual discipline data might evidence stronger relationship because of the substantial variations in gender composition within some broad discipline groups. Although the findings for individual disciplines are not any

stronger, but, in fact, somewhat weaker, they are nonetheless fortified by a much larger number of cases.

Spearman rank coefficients were computed because of the compression apparent in the lower part of the salary distributions (the female participation range was also restricted by a 100% ceiling) and because of the likelihood that some salary averages were unstable due to small Ns. Thus, it was thought that the correlation between ranks on salary and percentage of women might prove stronger, and indeed, the Spearman coefficients turned out notably higher. Also, Pearson r correlations were expected to be conservative because of the curvilinearity apparent in scatterplots.

Data from more than one year were examined primarily for cross-validation, to assure that any relationship found in one year's data was not atypical. While the consistency, and generally improvement, in correlation coefficients over the individual data years implied a correlation between increase in salary average and gender composition, this relationship was examined in a separate analysis.

Tables 2-4 display the correlation coefficients for the cross-time analysis. Two time-periods were used, again, for cross-validation: 1974-75 through 1982-83 and 1977-78 through 1985-86.

To explore relationships in the cross-time data, within the confines of bivariate correlations, required a number of correlations to be checked. Table 2 displays

the correlation coefficients (again, Spearman rank, as well as Pearson r) for percentage increase in salary level with women's participation at the beginning of the period, at the end of the period, and change in women's participation over the period. (Change in women's participation was measured by the difference in base- and end-year percentages, hereafter referred to as percentage point difference. Percentage increase in participation rates would have grossly exaggerated the participation increase in disciplines with very low base-year participation.)

Table 2

Percentage Increase in Salary Level with Women's Participation

Women's Participation	Broad Discipline Groups		Individual Disciplines	
	Spearman	Pearson r	Spearman	Pearson r
At beginning of period				
1974-75 thru 1982-83	-.66	-.48	-.66	-.43
1977-78 thru 1985-86	-.91	-.69	-.68	-.52
At end of period				
1974-75 thru 1982-83	-.66	-.65	-.68	-.57
1977-78 thru 1985-86	-.91	-.78	-.71	-.61
% pt. diff. over period				
1974-75 thru 1982-83	-.70	-.66	-.54	-.53
1977-78 thru 1985-86	-.33	-.38	-.33	-.28

Broad disciplines: N=19, first period; 20, second period
Individual disciplines: N=59, first period; 75 second period

The major observation to be drawn from the table is that the coefficients generally indicate a fairly strong negative correlation between increase in salary level and gender composition.

It is interesting to note the differences in magnitude between the first-period coefficients and those of the second-period, especially for broad disciplines. These differences appear to reflect the greater changes in female participation measured over the first period. Base-year rates probably understated female participation during the first period to a greater degree than the second period. Thus, first-period increases in salary level were more highly correlated with changes in female participation over the period than with female participation levels at the beginning of the period; whereas, just the opposite held for the second-period data.

End-year participation rates encompass participation increases over the period, of course, but they do not distinguish stable and increasing rates. That distinction is captured somewhat in the percentage point difference between beginning and ending rates, but, then, information on relative to what existing level of participation is lost. To consider both existing female participation level and subsequent increase required multiple correlations.

These are shown in Table 3. Also displayed, for reference, are the Pearson rs for the earlier bivariate correlations. Some improvement is noted in the first-period correlations, however, for the second period, the

Table 3

Percentage Increase in Salary Level with Base-Year Women's Participation and Change in Women's Participation

Correlation	74-75 thru 82-83		77-78 thru 85-86	
	Broad Disc.	Indiv. Disc.	Broad Disc.	Indiv. Disc.
Multiple *r*	-.78	-.63	-.83	-.64
Pearson *r*				
base-year rate	-.48	-.43	-.69	-.52
change in rate	-.66	-.53	-.38	-.28
end-year rate	-.65	-.57	-.78	-.61

improvement is relatively modest compared to the simple correlation of increase in salary level with end-year participation rate.

Correlations of relative change in salary level with female participation were also computed. While relative changes in salary level are normally not as dramatic as percentage changes, they can be equally, if not more important. Relative change was measured as the difference between base- and end-year indexed salary levels. Salary levels were indexed in relation to the total average salary for all disciplines (excluding medical and allied health disciplines, theology, interdisciplinary studies, and occupational technology fields).

Though it was thought that correlations of relative change in salary level and female participation might prove to be stronger, there was little appreciable difference between these coefficients (not shown) and those for

percentage increase in salary level. Only slight improvements were seen in Spearman coefficients.

What did produce markedly higher correlations was the calculation of curvilinear correlations. These were calculated because of the continued suggestion of curvilinearity in scatterplots. A second-order polynomial equation was selected based on the J-shaped curve apparent in many of the scatterplots.

Table 4 compares the curvilinear correlation coefficients with the corresponding Pearson rs obtained earlier. The table displays the absolute values of the coefficients.

Table 4

Comparison of Curvilinear Coefficients with Previous Linear Coefficients

	Curvilin.	Lin.
First-Period Broad Discipline Data		
% increase salary & base participation	.81	.48
% increase sal. & ending participation	.86	.65
% incr. sal. & change in participation	.66	.66
First-Period Individual Discipline Data		
% increase salary & base participation	.69	.43
% increase sal. & ending participation	.57	.57
% incr. sal. & change in participation	.76	.53
Second-Period Broad Discipline Data		
% increase salary & base participation	.84	.69
% increase sal. & ending participation	.88	.78
% incr. sal. & change in participation	.39	.38
Second-Period Individual Discipline Data		
% increase salary & base participation	.69	.52
% increase sal. & ending participation	.74	.61
% incr. sal. & change in participation	.29	.28

The improvement in a number of correlations confirms that some relationships in the data, although curvilinear, are stronger than the Pearson rs indicate. It is interesting to note that three of the four exceptions (no appreciable improvement) involve the correlation of increase in salary level with change in female participation. Why would the correlation of increase in salary level appear to be linear with change in female participation, but curvilinear with level of female participation?

Probably it is the mixed pattern of increases in female participation. Female participation has increased relatively little in the most segregated disciplines, both the highly male-dominated disciplines with large increases in salary level and female-dominated disciplines with much smaller increases in salary level (e.g., Engineering and Home Economics disciplines, respectively), which also contributes to the generally weaker correlation between increase in salary level and change in female participation. The larger increases in female participation have tended to be in disciplines with previously modest or moderate participation, while lesser increases have occurred in disciplines with high proportions of women. In effect, the correlation with increase in female participation is "straightened" by some disciplines along the lower end of the curve in the correlation with level of female participation closing up or swapping positions with disciplines that have had larger increases in participation on smaller bases.

Because disciplines that had substantially change in gender composition were of special interest in the study, a closer examination was undertaken of salary trends in "turned" disciplines. A "turned" discipline is defined as a previously male-dominated discipline that has increased in female participation to the point (30%) of being considered integrated. It had been expected that salary trends of "feminized" disciplines--disciplines which have increased in female participation to the point (70%) of being considered female-dominated--would also be examined. However, unfortunately, no such cases occurred in either of the data periods, although some disciplines came close (e.g., Elementary Education had reached 68.7% female in 1985-86).

Turnings, and feminizations had any occurred, were detected by comparing the gender classifications (masculine, integrated, and feminine) of disciplines at the beginning and end of each period. The 30-70 criterion adopted for classifying disciplines according to gender composition stems from a similar criterion used in housing research on racial integration, which has found that the image of a neighborhood becomes changed when the proportion of minority residents reaches 30%. At this level of minority presence, a neighborhood is perceived to have "turned." Above 70% white residency, the neighborhood is considered to retain its segregated identification.

The number of disciplines found to have turned over each period is shown in Table 5. The gender categories are

mutually exclusive within each period, but not between periods. A masculine discipline in the first period may be a turned discipline in the second period; a turned discipline in the first period is likely an integrated discipline in the second period.

Table 5

Median Increases in Salary Level by Gender Category

Gender category	74-75 thru 82-83 # of disc.	74-75 thru 82-83 Median increase	77-78 thru 85-86 # of disc.	77-78 thru 85-86 Median increase
Masculine	35	73.9%	40	73.1%
Feminine	1	72.7%	3	66.1%
Integrated	10	61.6%	23	59.4%
Turned	13	65.2%	9	57.8%
Feminized	-	-	-	-

Few definitive observations can be drawn from comparison of the median salary increases by gender category reported in Table 5. There is only a slight difference between masculine and feminine categories for the first period, but the feminine category is comprised of a single case. Their difference for the second period is larger, but again the feminine category is restricted to very few cases. Both turned and integrated categories are distinctly below the masculine category in median salary increase. Between turned and integrated categories, however, the difference is neither large nor in the same order for both periods.

Clearly the limited number of feminine cases restricts the comparison. Also, the turned disciplines may be too fluid for category comparisons, especially given the relatively short time spans. For example, Educational Administration, which recorded only a 47% increase in salary level over the second period, appears to have turned early in the period--1982-83 data show it at 37% female. In contrast, Botany, which had a 67% increase in salary level over the second period, appears to have turned late in the period--it still retains its masculine classification in the 1982-83 data--allowing only a year or two for any salary consequence to register.

An alternative approach is to combine the two periods into a single time-series. This expands the span of time for tracking salary levels, while the interval years that result from the overlap of the two periods permit quicker detection of turned disciplines. Table 6 displays the time-series for broad discipline groups.

Salary indexes are used in the table to sharpen the comparison of salary levels across years and thus aid examination of relative salary trends. Gender categories at the start of the time-series are identified in a column preceding the first-year salary indexes. The disciplines that subsequently turned are identified by an asterisk beside the salary index of the year when turning was detected.

Table 6

Salary Indexes for Selected Years, Broad Disciplines

Discipline		74-75	77-78	82-83	85-86
Agriculture/NR	M	.99	1.01	1.00	.99
Architecture/ED	M	.99	.99	.99	.95
Area Studies	M	NC	.93	* .91	.87
Biological Sci	M	1.00	1.03	1.02	* .98
Business/Mgt	M	1.13	1.14	1.22	1.26
Communication	M	.99	.98	* .95	.93
Computer Sci	M	1.10	1.07	1.19	1.27
Education	M	1.01	*1.00	.94	.90
Engineering	M	1.08	1.07	1.19	1.23
Fine/Applied Arts	M	.90	*.90	.86	.84
Foreign Languages	I	.94	.94	.89	.86
Home Economics	F	.97	1.00	.97	.92
Law	M	1.29	1.35	1.43	1.40
Letters	M	.93	* .93	.88	.85
Library Sci	I	1.03	1.02	1.00	.93
Mathematics	M	.99	.96	.96	.96
Physical Sci	M	1.00	.99	1.00	.99
Psychology	M	.99	* .96	.90	.88
Public Aff/Svcs	M	1.07	1.06	*1.01	.98
Social Sci	M	.99	.97	.94	* .92

Note. M=masculine; I=integrated; F=feminine; *=turned; NC=no comparison.

All basic trends are apparent in the table: increase, level, and decline. What is interesting is the contrast in patterns between the disciplines that remained masculine throughout the combined period and the remaining disciplines, those that were feminine, integrated, or turned integrated during the period. Generally, the masculine disciplines evidence either stable or rising trends in salary level;

whereas, with the possible exception of Home Economics, the remaining disciplines evidence declining trends. The trend in Home Economics is unclear. It could be viewed as generally stable with some variability due to flaws in the data, or it could be viewed as declining.

Of further interest in the table is a seeming pattern of salary trends in turned disciplines to decline around the point of turning. In the cases of Area Studies, Communications, Law, Psychology, and Public Affairs and Services, turning and decline in salary trend are apparent in the same data year. In the cases of Education, Fine and Applied Arts, and Letters, decline is evident in the following year. Social Sciences is the exception, with a declining trend apparent well before turning, however, it should be noted that this discipline group was close to turning through much of the period.

Tables 7-9 display similar time-series for individual disciplines. Separate tables are used to organize the disciplines into their respective gender categories, except the last table is a combined listing of integrated and feminine disciplines.

The masculine disciplines in Table 7 are listed in an approximate order beginning with disciplines that evidence increasing trends, followed by those with stable and then declining trends. Moving through the table, the first 13 disciplines evidence rising salary trends. Most are Business and Engineering disciplines. The next 13

disciplines evidence generally stable relative salary levels, although a few show the same fluctuating trend seen

Table 7

Salary Indexes for Selected Years, Masculine Disciplines

Discipline	74-75	77-78	82-83	85-86
Accounting	1.16	1.20	1.28	1.34
Mech Engr	1.05	1.07	1.21	1.23
Computer Sci	1.10	1.07	1.19	1.27
Banking/Fin	1.16	1.16	1.24	1.31
Chem Engr	1.11	1.10	1.23	1.26
Elect Engr	1.12	1.08	1.22	1.27
Indus Engr	1.11	1.10	1.19	1.25
Law	1.29	1.35	1.43	1.40
Marketing/Pur	1.14	1.14	1.20	1.23
Civil Engr	1.09	1.08	1.17	1.18
Bus Mgt/Admin	1.16	1.12	1.21	1.23
Agri Engr	1.04	1.07	1.10	1.10
Geology	.97	.98	1.01	1.00
Plant Path	.96	.98	.98	.97
Physics	1.02	.99	1.01	1.02
Agronomy	.99	.99	1.00	.99
Forestry	.95	.99	.98	.95
Bus Econ	1.08	1.09	1.10	1.08
Agri Econ	1.04	1.06	1.04	1.02
Architecture	.98	.97	.97	.96
Horticulture	.98	.96	.99	.95
Biochem	1.01	1.02	1.02	.98
Math	.99	.96	.95	.96
Animal Sci	1.00	.99	.98	.96
Entomology	.98	1.00	.98	.94
Economics	1.11	1.05	1.04	1.06
Statistics	1.03	.98	1.00	.95
Chemistry	1.00	.98	.96	.95
Geography	.98	.96	.93	.91
Zoology	1.01	.99	.95	.93
Philosophy	.95	.92	.89	.84
Polit Sci	.98	.96	.90	.86

Note. Includes only disciplines with data for all years.

in the broad Home Economics discipline. Various mathematics, science, and agricultural disciplines are included in this band of disciplines with stable salary trends. Only the last six masculine disciplines evidence declining trends. In the case of Animal Science and Chemistry, the declines are modest, four or five index points over the period. The declines are more marked in Geography, Zoology, Philosophy, and Political Science; however, in three of these disciplines, there was fairly substantial female participation (around 20-25 percent) throughout the period.

Table 8 lists the disciplines that turned over the time span. Asterisks are used again to identify the approximate

Table 8

Salary Indexes for Selected Years, Turned Disciplines

Discipline	74-75	77-78	82-83	85-86
Educ Admin	1.09	1.10	*1.00	.93
Ind Art/Voc/Tec	1.04	1.03	*1.00	.91
Speech	.97	* .96	.89	.84
Classics	.95	* .92	.87	.83
Sociology	1.00	* .98	.91	.88
Music-Perf	.92	.91	.86	* .80
Psychology	.99	* .96	.90	.88
Drama	.92	.91	* .85	.83
History	.94	.94	.90	* .85
Art	.88	* .89	.86	.82
Social Work	1.07	*1.07	1.03	1.01
Music-Lib Art	.91	* .95	.89	.86
Botany	.96	.96	.98	* .92
Microbiol	1.04	1.03	*1.03	1.00
Journalism	.98	1.00	* .96	.95

Note. Includes only disciplines with data for all years.

points of turning. Disciplines are roughly ordered as in Table 7, but this time from most to least severe decline.

General observations from this table conform with those regarding turned broad disciplines. Declining trends are apparent for this category of disciplines, and in most cases, the decline in relative salary level becomes apparent around the time of turning, either the same or following data year. Two exceptions, however, are noted. For Music-Performance and History, the slippage in relative salary becomes apparent in 1982-83, the data year before turning. Noteworthy in these cases is how close to turning the disciplines were in 1982-83 (29.2% and 28.5%, respectively).

Table 9 combines integrated and feminine disciplines. The list begins with the most severe declines, which interestingly are two disciplines that had large increases in female participation, bringing them close to the feminization threshold. Special Education increased over the period from 30% to 65% and Elementary Education from 51% to 69%.

The severe declines in relative salary levels of the three Education fields that head the list (all above 60% female in 1985-86) contrast with the fluctuating but more level salary trend of Nursing, a traditionally female discipline. Other disciplines in between evidence very similar declines over the period of 7-10 index points. However, with the exceptions of Special Education and

Table 9

Salary Indexes for Selected Years, Integrated and Feminine Disciplines

Discipline	74-75	77-78	82-83	85-86
Spec Educ	1.07	1.00	.94	.87
Elem Educ	1.04	.98	.97	.89
Curric/Instr	1.01	.98	.91	.88
Foods/Nutr	.99	1.04	.98	.92
Fam Rel/Ch Dev	.98	1.00	.97	.89
Educ Psych	.99	.96	.92	.89
Library Sci	1.03	1.02	1.00	.93
Anthropology	.97	.95	.90	.87
English	.92	.93	.87	.85
Phys Educ	.97	.98	.94	.90
Nursing	.93	.96	.93	.94

Note. Includes only disciplines with data for all years.

Elementary Education, trends in this table appear no more severe than those in the previous table of turned disciplines, and possibly less severe.

Relating all three tables of individual discipline trends, the most salient distinction that seems to emerge is not between integrated and feminine disciplines but between masculine and turned disciplines, i.e, what happens when disciplines cease to be masculine. This is the same distinction observed in Table 6 for broad disciplines.

The detail of the time-series data for broad and individual disciplines provides additional insight into different salary trends in disciplines, especially the pattern of relative decline after turning in newly integrated disciplines. Though the examination of

individual discipline trends involves more subjective interpretation than the correlation analysis. It is the already established strength of correlation in the salary and gender composition data that justifies the examination.

Limitations

The purpose of this study was to investigate existing data on average faculty salaries and women's representation in academic disciplines for possible evidence of a relationship between salary level and women's representation. The results of the study are limited to the given data and their generalization must be approached with caution.

However, the institutions that participate in the OSU survey represent a cross-section of major state colleges and universities. There is no reason to believe that these institutions would evidence different salary patterns among disciplines than exist at other or similar institutions. The main concern regarding the salary data is the likely unstableness of small discipline averages.

The NCES data on doctorate recipients cover total degree production, so there is little problem of error in these data. Instead, the concern is how well the sex distributions of doctorate recipients correspond to the sex distributions of faculty disciplines. While it is reasonable to expect that the proportions of women in lower faculty ranks should reflect the proportions available in supply pools of recent doctorate recipients--at least, this is a common assumption in institutions's affirmative action

plans--the persistence of female faculty hiring goals in most plans testifies to some lower representation of women faculty than is estimated to be available.

Implications

Nonetheless, the magnitude and consistency of the findings cast some doubt on the conventional understanding of salary differences by discipline as simply reflecting market forces. And by doing so, they point to the need for a critical appraisal of the market rationale so often used to justify salary differences among disciplines (occuptions).

The findings also challenge conventional interpretations about the sources and solutions of male-female wage disparity. Generally, it is argued that the less favorable wage position of women is a consequence of their lack of competitiveness in the labor market. Women have been disadvantaged by lack of skills and credentials, limited work experience, or temporariness in the market. Hence, it is believed that remedies to wage disparity need to address raising women's access to education and training, as well as increasing professionalism among women.

The thrust of the findings presented here is that though these developments take place--and they are taking place--the problem of wage disparity is not likely to disappear. The academic setting of this study largely controls for education, professional training, career commitment, and many other factors thought to differentiate

wages, e.g., nature of work, occupational prestige, level of responsibility, and working conditions. Still, disciplines dominated by women pay lower salaries than those dominated by men.

That the disciplines traditionally chosen by women do not have the same market demand as male disciplines is the prevailing explanation for the low salary levels in female-dominated disciplines (occupations). In other words, women enter the wrong fields. The remedy, seemingly, is to encourage women to enter non-traditional, male fields. The present findings do not suggest any great optimism for this solution either. According to the cross-time analysis of data in this study, when women move in substantial number into male disciplines, the salary trend in the discipline is likely to decline.

This paper draws substantially upon the author's recent doctoral dissertation.

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